ritory have been much swollen during the month. At the close of the month the lowlands in the southern part of this city were flooded. At Ogden several dams were swept away, entailing losses estimated at $6,000. Numerous washouts occurred on the Union Pacific railroad. The Denver and Rio Grande railroad in southeastern Utah was flooded and no trains from Denver arrived after the 28th. The water in Great Salt Lake reached a greater height than has been known for many years.

Nephi, Juab county: the railroad bridge at the forks of Salt creek was washed away on the 9th.

West Virginia.—Wheeling: on the 13th the southeastern part of Jackson county, in this state, was visited by a severe storm which caused heavy losses to the farmers along the creek bottoms. Several dwellings and bridges and numerous barns are reported to have been washed away. The orchards and newly planted fields were also seriously damaged.

RAIN FROM A CLOUDLESS SKY.

Key West, Florida: from 9.45 to 10 p. m. of the 28th, a light rain fell when no cloud was visible except near the western horizon.

HIGH TIDES.

Eastport, Maine: 11th and 27th.

VERIFICATIONS.

INDICATIONS.

The detailed comparison of the tri-daily indications for May, 1884, with the telegraphic reports of the preceding twenty-four hours, shows the general average percentage of verifications to be 81.54 per cent. The percentages for the four elements are: Weather, 87.43; direction of the wind, 75.81; temperature, 79.52; barometer, 86.22 per cent. By geographical districts, they are: For New England, 79.66; middle Atlantic states, 84.35; south Atlantic states, 84.25; eastern Gulf, 83.93; western Gulf, 84.90; lower lakes, 79.92; upper lakes, 78.04; Ohio valley and Tennessee, 81.80; upper Mississippi valley, 78.35; Missouri valley, 78.65; north Pacific, 86.29; middle Pacific, 87.10; south Pacific, 89.52. There were three omissions to predict out of 3,137, or 0.09 per cent. Of the 3,134 predictions that have been made, seventy-eight, or 2.49 per cent., are considered to have entirely failed; one hundred and fifty-two, or 4.85 per cent., were one-fourth verified; four hundred and thirty-six, or 13.91 per cent., were one-half verified; six hundred and seventy-four, or 21.51 per cent., were three-fourths verified; 1,794, or 57.24 per cent., were fully verified, so far as can be ascertained from the tri-daily reports.

CAUTIONARY SIGNALS.

During May, 1884, two hundred and sixty-six cautionary signals were ordered. Of these, one hundred and ninety-seven, or 74.06 per cent., were justified by winds of twenty-five miles or more per hour at or within one hundred miles of the station. Fifty-eight cautionary off-shore signals were ordered, of which number forty-six, or 79.31 per cent., were fully justified, both as to direction and velocity; forty-eight, or 82.76 per cent., were justified as to velocity; and forty-nine, or 84.48 per cent., were justified as to direction. Three hundred and twenty-four signals of all kinds were ordered, two hundred and forty-three, or 75.0 per cent., being fully justified. These do not include signals ordered at display stations where the velocity of the wind is only estimated. Of the above cautionary off-shore signals, fifty-four were changed from cautionary; no northwest signals were ordered. Five signals were ordered late. In eighty-seven cases winds of twenty-five miles or more per hour were reported for which no signals were ordered.

Prof. T. C. Mendenhall, director of the "Ohio Meteorological Bureau," in his report for May, 1884, makes the following statement:

In the matter of railway weather signals the percentage of verification for the month is: for temperature, 93; and for state of the weather, 78, the mean being 85.5. For May of last year the percentage of verification was reported as 75, and a gain of more than 10 per cent. is shown.

Arrangements are now nearly completed for placing the system of car signals upon the two divisions of the Hocking Valley and Columbus and Toledo Railway. It is expected to have the system in successful operation before the end of June, and efforts will be continued to secure permission to place the signals on the cars of other lines of railway.

TEMPERATURE OF WATER.

The temperature of water as observed in rivers and harbors during May, 1884, with the average depth at which the observations were made and the mean temperature of the air at the various stations, are given in the table below. The highest water temperatures, 86°.5 and 81°.3 were reported from Key West, Florida, and Savannah Georgia, and occurred on the 21st and 25th respectively, the lowest, 32°.9 occurred at Buffalo, New York, on the 2d. The smallest monthly range, 2°.9 occurred at Eastport, Maine; the greatest, 24°.1, occurred at Buffalo, New York. Observations were interrupted by ice at Duluth, Minnesota from the 1st to 11th, and at Marquette, Michigan on the 5th. On account of breakage of instruments no observations were made at San Francisco, California and Fort Canby, Washington Territory, from the 1st to 15th.

Temperature of water for May, 1884.

Station.	Temperature at bottom.		Range.	Average depth, feet and inches.		Mean temperature of the air at station.
	Max.	Min.				
	°	°	°	ft.	in.	°
Atlantic City, New Jersey	66.0	49.5	16.5	5	1	58.7
Alpena, Michigan	61.5	41.5	20.0	12	1	48.5
Augusta, Georgia	80.5	60.0	20.5	7	11	74.0
Baltimore, Maryland	68.5	57.4	11.1	9	7	64.8
Block Island, Rhode Island	56.0	44.9	11.1	8	8	55.0
Boston, Massachusetts	55.4	46.1	9.3	21	6	53.8
Buffalo, New York	57.0	32.9	24.1	10	...	52.1
Canby, Fort, Washington*	66.9	48.5	18.4	15	8	53.4
Cedar Keys, Florida	86.5	76.5	10.0	8	10	77.0
Charleston, South Carolina	80.2	68.7	11.5	42	8	74.8
Chicago, Illinois	55.8	46.3	9.5	8	7	56.7
Chincoteague, Virginia	76.9	56.7	20.2	4	3	61.7
Cleveland, Ohio	58.8	45.5	13.3	14	0	57.7
Detroit, Michigan	60.4	48.2	12.2	23	3	58.9
Delaware Breakwater, Delaware	67.0	48.7	18.3	9	5	60.0
Duluth, Minnesota*	41.2	38.5	2.7	4	1	48.9
Eastport, Maine	40.2	37.3	2.9	15	6	46.5
Escanaba, Michigan	55.1	34.9	20.2	17	11	49.1
Galveston, Texas	82.0	71.4	10.6	12	2	75.9
Grand Haven, Michigan	66.2	57.0	9.2	19	...	55.1
Indianola, Texas	82.0	66.9	15.1	9	1	75.4
Jacksonville, Florida	84.9	75.4	9.5	18	...	76.5
Key West, Florida	87.7	79.2	8.5	17	4	80.9
Mackinaw City, Michigan	51.8	37.0	14.8	10	...	47.7
Macon, Fort, North Carolina	77.0	62.5	14.5	6	8	64.3
Marquette, Michigan*	38.0	34.7	3.3	9	11	47.2
Milwaukee, Wisconsin	52.1	45.1	7.0	8	0	53.5
Mobile, Alabama	81.5	68.5	13.0	16	3	74.6
New Haven, Connecticut	62.2	49.2	13.0	15	8	55.9
New London, Connecticut	55.0	44.0	11.0	12	8	55.8
New York City	60.9	50.5	9.5	16	4	58.8
Norfolk, Virginia	75.4	61.6	13.8	16	10	68.1
Pensacola, Florida	77.3	71.1	6.2	17	5	74.2
Portland, Maine	50.9	42.5	8.4	16	7	53.9
Portland, Oregon	61.7	51.0	10.7	62	10	59.8
Sandusky, Ohio	65.0	54.0	11.0	11	2	59.6
Sandy Hook, New Jersey	56.8	47.3	9.5	1	6	58.9
San Francisco, California*	59.7	56.2	3.5	39	1	58 2
Savannah, Georgia	81.3	65.7	15.6	10	3	76.1
Smithville, North Carolina	78.0	66.8	11.2	11	1	71.5
Toledo, Ohio	69.2	56.2	13.0	12	0	59.8
Wilmington, North Carolina	77.6	62.8	14.8	19	0	71.5

* Reports incomplete; see text.

ATMOSPHERIC ELECTRICITY.

AURORAS.

The only auroral display of the month, observed at more than one place, was that which occurred during the early morning of the 1st; and it was only observed at a few of the more northerly stations between New Hampshire and Dakota, as will be seen from the following reports:

Mount Washington, New Hampshire: a faint auroral display was observed from 1.30 a. m. of the 1st until daylight; it consisted of indistinct streamers extending upward 50°; no arch was visible.

Boston, Massachusetts: from 2 a. m. until daylight of the 1st, was observed a very brilliant auroral display in the form of an arch with streamers of light red color. The arch extended over about 40° of the northern sky and to an altitude of 45°.